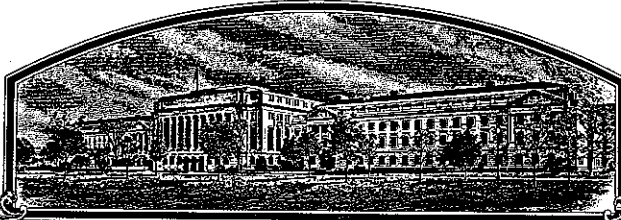


No.



9600058

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**Pioneer Hi-Bred International, Inc.**

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED, PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, U.S.C. 2321 ET SEQ.)

SOYBEAN

'9244'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirtieth day of June in the year of our Lord one thousand nine hundred and ninety-eight.

Attest:

Acting Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

Secretary of Agriculture




U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE DIVISION - PLANT VARIETY PROTECTION OFFICE

## APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a).

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)  Pioneer Hi-Bred International, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME  9244
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)  700 Capital Square 400 Locust St. Des Moines, IA 50309		5. TELEPHONE (include area code)  515/270-3582	<b>FOR OFFICIAL USE ONLY</b> PVPO NUMBER 96000058 DATE NOV. 22, 1995 FILING AND EXAMINATION FEE \$2450.00 DATE NOV. 22, 1995 CERTIFICATION FEE \$300.00 DATE 11/22/95
		6. FAX (include area code)  515/253-2288	
7. GENUS AND SPECIES NAME  Glycine Max	8. FAMILY NAME (Botanical)  Leguminosae		
9. CROP KIND NAME (Common name)  Soybean			
10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) (Common name)  Corporation			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION  Iowa		12. DATE OF INCORPORATION  1926	
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS  John Grace 7300 NW 62nd Ave. PO Box 1004 Johnston, IA 50131-1004  Mike Roth (copy) 700 Capital Square 400 Locust St. Des Moines, IA 50309			14. TELEPHONE (include area code)  515/270-3582
			15. FAX (include area code)  515/253-2288
16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)			
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Applicant's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,600 viable untreated seeds or, for tuber propagated varieties verification that tissue culture will be deposited and maintained in a public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to PVPO)			
17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES #1 "yes," answer items 18 and 19 below <input checked="" type="checkbox"/> NO #1 "no," go to item 20)			
18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES #1 "yes," give names of countries and dates <input type="checkbox"/> NO 3800 Units sold in Canada-1995			
21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.  The undersigned applicant(s) is/are the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Applicant(s) is/are informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT (Owner(s))  		SIGNATURE OF APPLICANT (Owner(s))	
NAME (Please print or type)  D. John Grace III		NAME (Please print or type)	
CAPACITY OR TITLE  Soybean Research Coordinator	DATE  11/16/95	CAPACITY OR TITLE	DATE

Pioneer Hi-Bred Int'l, Inc.  
PVP Application 9244 Soybean  
May 2, 1995

## EXHIBIT A

### ORIGIN AND BREEDING HISTORY

#### Breeding History of 9244 Soybean

- 1985 (Summer) A cross was made between 'A2943' and '9061' at the Pioneer research station in Waterloo, Iowa. The stock number "3966" was assigned to identify the population created by this cross.
- 1985-87 Population 3966 was advanced through the F4 generation using modified single seed descent.
- 1987 F5 generation of population 3966 was grown in Redwood Falls, Minnesota. Single plants were harvested.
- 1988 F5;F6 progeny rows were grown in identified rows. Row RFPR8-13256 was selected and the seed harvested from plants within the row was composited to form the line designated 3966R022.
- 1989 3966R022 was entered into a preliminary yield trial (Test: RFD204-20).
- 1990 3966R02 entered advanced yield trials in Minnesota (test: RFA2B100). Plants were pulled from a rouged bulk for purification purposes.
- 1991 Entered into elite yield trials across the Group I growing regions of the United States and Canada (Tests: RFA2E000, NPA2E000, CFA2E000, SJA2E000, JHA2E000). Purification rows derived from plants pulled in 1990 were harvested. Rows containing offtypes were rouged or discarded.
- 1992 Second year of elite yield testing across the United States and Canada (Tests: RFA2E000, CFA2E000, NPA2E000, SJA2E000, JHA2E000). A 3.5 acre production block (breeder seed) was grown in Waterloo, Iowa.
- 1993 Third year in elite yield testing across the United States and Canada (Tests: RFA2E000, CFA2E000, NPA2E000, SJA2E000, JHA2E000, RFVXB24H). A 155 acre production block (foundation seed) was grown in Waterloo, Iowa.
- 1994 Fourth year in elite yield testing across the United States and Canada (Tests: RFA2E000, CFA2E000, NPA2E000, SJA2E000, JHA2E000, RFVXB24H).
- 1995 Based on superior yield for maturity, standability, and yellow hila suitable for some food markets, the line was released as '9244'.

Pioneer Hi-Bred Int'l, Inc.  
PVP Application 9244 Soybean  
May 2, 1995

EXHIBIT A

ORIGIN AND BREEDING HISTORY

Breeding History of 9244 Soybean continued

'9244' has undergone four years of extensive testing and purification. It has been observed by the breeder to be uniform and stable for all plant traits from generation to generation, with no evidence of variants.

Three and one half acres of 9244 (breeder's seed) were grown during the winter of 1992. One hundred fifty five acres of 9244 (foundation seed equivalent) were grown in 1993.

Pioneer Hi-Bred Int'l, Inc.  
 PVP Application 9244 Soybean  
 May 2, 1995

# EXHIBIT B: NOVELTY STATEMENT CONCERNING 9244 SOYBEAN

To our knowledge, variety 9244 is most similar to A2187, Amsoy 71, Corsoy, Hardin, Harcor, '2480', and '9203' (PVP applied for). However, all lines display different isozyme patterns (Table 1).

Table 1. Isozyme profiles of 9244, 2480, 9203, A2187, Amsoy 71, Corsoy, Hardin, and Harcor.

Variety	Isozyme											
	ACO2	ACO3	ACO4	ACP	DIA	ENP	IDH1	IDH2	MDH	MPI	PGM1	PHI1
9244	2	1	1	A	A,B	A	1	2	A	B	1	2
2480	2	1	1,3	A	B	A	2	2	A	A	1	2
9203	2	1	1	A	B	A	1	2	A,B	A	1	1
A2187	2	1	3	B	B	A	1	1	A	A	2	2
Amsoy 71	2	1	3	A	A	A	1	1	A	A	1,2	1,2
Corsoy	2	1	3	A	B	A	2	1	A	B	1	1
Hardin	2	1	3	A	B	A	2	1	A	B	1	1
Harcor	2	1	3	A	B	A	2	1	A	B	1	2

## Key:

Aconitase: ACO2, ACO3, ACO4

Acid Phosphatase: ACP

Diaphorase: DIA

Endopeptidase: ENP

Isocitrate Dehydrogenase: IDH1, IDH2

Malate Dehydrogenase: MDH

Mannose 6-Phosphate Isomerase: MPI

Phosphoglucosmutase: PGM

Phosphoglucose Isomerase: PHI

□

Pioneer Hi-Bred Int'l, Inc.  
PVP Application 9244 Soybean  
May 2, 1995

EXHIBIT B: NOVELTY STATEMENT CONCERNING 9244 SOYBEAN

(continued)

9244 also differs from comparison varieties as noted below:

- A2187: A2187 has a significantly lower percentage of linoleic acid (18:2) in oil derived from its seed than 9244 (Table 2).
- Amsoy 71: Amsoy 71 has significantly larger seed size than 9244 (Table 3).
- Corsoy: Corsoy is significantly taller than 9244 (Table 4).
- Hardin: Hardin has a significantly lower percentage of linoleic acid in oil derived from its seed (Table 5).
- Harcor: Harcor has a significantly higher seed protein percentage than 9244 (Table 6).
- 2480: 2480 has significantly larger seed size than 9244 (Table 7).
- 9203: 9203 has a significantly higher stearic acid level than 9244 (Table 8).

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PVP Application 9244 Soybean  
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Table 4. T-test comparison of 9244 vs. Corsoy for plant height (cm), 1993-94 2-year analysis. Height is defined as the distance (in cm) from the soil surface to the topmost pod. Plots were four 30 inch rows wide and approximately 15 feet long.

Formula for Standard Error Calculations:

$$SE \text{ diff} = \sqrt{\frac{\sum (X1-X2)^2 - (\sum X1-X2)^2/n}{(n)(n-1)}}$$

YEAR	LOC	REP	Corsoy (X1)	9244 (X2)	X1-X2	(X1-X2) <sup>2</sup>	1993 ANALYSIS
			--- plant height (cm) ---				
1993	109C	1	64.0	61.0	3.0	9.00	Ave X1 = 65.00
1993	109C	2	61.0	51.0	10.0	100.00	Ave X2 = 54.75
1993	109C	3	61.0	51.0	10.0	100.00	d = (Ave X1 - Ave X2) 10.25
1993	109C	4	74.0	56.0	18.0	324.00	SE diff = SQRT of 9.396
1993		SUM	260.0	219.0	41.0	533.00	SE diff = 3.065
1993		MEAN	65.00	54.75	10.25 = d		t = d/SE diff = 3.344
1993		n =	4 groups of individuals				df = 3
							Prob > t = 0.04425820
							1993 Standard Error Calculation:
							SE diff <sub>93</sub> = $\sqrt{\frac{533.0 - ((41.0)^2/4)}{(4)(3)}}$
YEAR	LOC	REP	Corsoy (X1)	9244 (X2)	X1-X2	(X1-X2) <sup>2</sup>	1994 ANALYSIS
			--- plant height (cm) ---				
1994	105A	1	117.0	102.0	15.0	225.00	Ave X1 = 97.50
1994	105A	2	109.0	102.0	7.0	49.00	Ave X2 = 83.00
1994	105A	3	112.0	99.0	13.0	169.00	d = (Ave X1 - Ave X2) 14.50
1994	105A	4	117.0	99.0	18.0	324.00	SE diff = SQRT of 7.85714
1994	108B	1	89.0	58.0	31.0	961.00	SE diff = 2.8031
1994	108B	2	79.0	64.0	15.0	225.00	t = d/SE diff = 5.173
1994	108B	3	86.0	74.0	12.0	144.00	df = 7
1994	108B	4	71.0	66.0	5.0	25.00	Prob > t = 0.0012909234
1994		SUM	780.0	664.0	116.0	2122.00	1994 Standard Error Calculation:
1994		MEAN	97.50	83.00	14.50 = d		SE diff <sub>94</sub> = $\sqrt{\frac{2122 - ((116)^2/8)}{(8)(7)}}$
1994		n =	8 groups of individuals				
TOTAL		SUM	1040.0	883.0	157.0	2655.00	COMBINED 1993-94 ANALYSIS
		MEAN	86.67	73.58	13.08		Ave X1 = 86.67
		n =	12 groups of individuals				Ave X2 = 73.58
							d = (Ave X1 - Ave X2) 13.08
							SE diff = SQRT of 4.55240
							SE diff = 2.134
							t = d/SE diff = 6.132
							df = 11
							Prob > t = 0.00007394143330
							Combined Standard Error Calculation:
							SE diff <sub>comb</sub> = $\sqrt{\frac{2655 - ((157)^2/12)}{(12)(11)}}$

Location Key:

105A: Wood Lake, Minnesota (data for 9244 in rep 3 was missing in 1994).

108B: Pipestone, Minnesota

109C: Jackson, Minnesota

Page 1

Table 6. T-test comparison of 9244 vs. Harcor for percent seed protein.

Page 1

Table 7. T-test comparison of 9244 versus 2480 for seed size (grams per hundred seeds).

Page 1

Pioneer Hi-Bred Int'l Inc.								
PVP Application 9244 Soybean								
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Table 8. T-test comparison of 9244 vs. 9203 for percent stearic acid (18:0), 1993-94 2-year analysis. Stearic Acid is determined by HPLC and recorded as a percent of total palmitic, stearic, oleic, linoleic and linolenic acids.							Formula for Standard Error Calculations:	
							$SE \text{ diff} = \sqrt{\frac{\Sigma (X1-X2)^2 - (\Sigma X1-X2)^2/n}{(n)(n-1)}}$	
YEAR	LOC	REP	9203 (X1)	9244 (X2)	X1-X2	(X1-X2) <sup>2</sup>		
-- percent stearic acid --								
1993	106D	1	4.2	3.7	0.5	0.25	<b>1993 ANALYSIS</b>	
1993	106D	2	4.2	3.9	0.3	0.09	Ave X1 =	4.06
1993	106D	3	4.4	3.9	0.5	0.25	Ave X2 =	3.69
1993	106D	4	4.3	4.0	0.3	0.09	d = (Ave X1 - Ave X2	0.37
1993	106I	1	4.1	3.7	0.4	0.16	SE diff = SQRT of	0.001
1993	106I	2	4.0	3.7	0.3	0.09	SE diff =	0.033
1993	106I	3	4.1	3.6	0.5	0.25	t = d/SE diff =	11.000
1993	106I	4	4.1	3.6	0.5	0.25	df =	11
1993	109C	1	3.9	3.5	0.4	0.16	Prob > t =	0.00000028
1993	109C	2	3.8	3.6	0.2	0.04	1993 Standard Error Calculation:	
1993	109C	3	3.9	3.6	0.3	0.09	$SE \text{ diff}_{93} = \sqrt{\frac{1.76 - ((4.4)^2/12)}{(12)(11)}}$	
1993	109C	4	3.7	3.5	0.2	0.04		
1993		SUM	48.7	44.3	4.4	1.76		
		MEAN	4.06	3.69	0.37	=d		
		n =	12	groups of individuals				
1994	105A	1	4.0	3.5	0.5	0.25	<b>1994 ANALYSIS</b>	
1994	105A	2	4.1	3.5	0.6	0.36	Ave X1 =	4.07
1994	105A	4	4.1	3.6	0.5	0.25	Ave X2 =	3.59
1994	106D	1	4.2	3.6	0.6	0.36	d = (Ave X1 - Ave X2	0.48
1994	106D	2	4.1	3.6	0.5	0.25	SE diff = SQRT of	0.00088
1994	106D	3	4.2	3.6	0.6	0.36	SE diff =	0.0296
1994	106D	4	4.1	3.7	0.4	0.16	t = d/SE diff =	16.279
1994	108B	1	3.9	3.6	0.3	0.09	df =	10
1994	108B	2	4.0	3.5	0.5	0.25	Prob > t =	0.000000159
1994	108B	3	4.1	3.7	0.4	0.16	1994 Standard Error Calculation:	
1994	108B	4	4.0	3.6	0.4	0.16	$SE \text{ diff}_{94} = \sqrt{\frac{2.65 - ((5.3)^2/11)}{(11)(10)}}$	
1994		SUM	44.8	39.5	5.3	2.65		
		MEAN	4.07	3.59	0.48	= d		
		n =	11	groups of individuals				
TOTAL		SUM	93.5	83.8	9.7	4.41	<b>COMBINED 1993-94 ANALYSIS</b>	
		MEAN	4.07	3.64	0.42		Ave X1 =	4.07
		n =	23	groups of individuals			Ave X2 =	3.64
Location Key:  105A: Wood Lake, Minnesota (data for 9244 in rep 3 was missing in 1994). 106D : Redwood Falls, Minnesota 106I: Clements, Minnesota 108B: Pipestone, Minnesota 109C: Jackson, Minnesota							d = (Ave X1 - Ave X2	0.42
							SE diff = SQRT of	0.00063
							SE diff =	0.025
							t = d/SE diff =	16.793
							df =	22
							Prob > t =	0.00000000000005
							Combined Standard Error Calculation:	
							$SE \text{ diff}_{\text{comb}} = \sqrt{\frac{4.41 - ((9.7)^2/23)}{(23)(22)}}$	

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, MEAT, GRAIN & SEED DIVISION  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) Pioneer Hi-Bred International, Inc.	TEMPORARY DESIGNATION	VARIETY NAME 9244
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 700 Capital Square 400 Locust Street Des Moines, IA 50309		FOR OFFICIAL USE ONLY PVPO NUMBER 9600058

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,   ). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)  
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)  
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) \_\_\_\_\_

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) \_\_\_\_\_

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP<sup>1a</sup>)

2 = Type B (SP<sup>1b</sup>)

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) \_\_\_\_\_

## 11. LEAFLET SIZE:

☒ 21 = Small ('Amsoy 71'; 'A5312')  
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

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## 12. LEAF COLOR:

☒ 21 = Light Green ('Weber'; 'York')  
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

## ★ 13. FLOWER COLOR:

☒ 2

1 = White

2 = Purple

3 = White with purple throat

## ★ 14. POD COLOR:

☒ 1

1 = Tan

2 = Brown

3 = Black

## ★ 15. PLANT PUBESCENCE COLOR:

☒ 1

1 = Gray

2 = Brown (Tawny)

## 16. PLANT TYPES:

☒ 21 = Slender ('Essex'; 'Amsoy 71')  
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

## ★ 17. PLANT HABIT:

☒ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

## ★ 18. MATURITY GROUP:

☒ 0 ☒ 51 = 000  
9 = VI2 = 00  
10 = VII3 = 0  
11 = VIII4 = I  
12 = IX5 = II  
13 = X

6 = III

7 = IV

8 = V

## ★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

## BACTERIAL DISEASES:

★

☒ 0Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★

☒ 1Bacterial Blight (*Pseudomonas glycines*)

★

☒ 0Wildfire (*Pseudomonas tabaci*)

## FUNGAL DISEASES:

★

☒ 1Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)

★

☒ 0

Race 1

☒ 0

Race 2

☒ 0

Race 3

☒ 0

Race 4

☒ 0

Race 5

☐

Other (Specify)

☒ 0Target Spot (*Corynespora cassicola*)☒ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☒ 0Powdery Mildew (*Microsphaera diffusa*)

★

☒ 1Brown Stem Rot (*Cephalosporium gregatum*)☒ 0Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

## 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

## FUNGAL DISEASES: (Continued)

- ★ ☐ 1 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 1 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 1 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☐ 2 Race 1 ☐ 2 Race 2 ☐ 1 Race 3 ☐ 1 Race 4 ☐ 1 Race 5 ☐ 0 Race 6 ☐ 1 Race 7
- ☐ 1 Race 8 ☐ 1 Race 9 ☐ 2 Other (Specify) 10, 13, 16, 17

## VIRAL DISEASES:

- ☐ 1 Bud Blight (Tobacco Ringspot Virus)
- ☐ 1 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 1 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 1 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☐ 1 Seed Mottle (Soybean Mosaic Virus)

## NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 1 Race 3 ☐ 0 Race 4 ☐ Other (Specify) \_\_\_\_\_
- ☐ 0 Lance Nematode (*Hoplolaimus Colombus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): \_\_\_\_\_

## 20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 1 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) \_\_\_\_\_

## 21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) \_\_\_\_\_

## 22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	9252	Seed Coat Luster	Hardin
Leaf Shape	Hardin	Seed Size	9203
Leaf Color	9062	Seed Shape	9162
Leaf Size	Hardin	Seedling Pigmentation	9181



## 23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

9600058

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
9244 Submitted	136.5	1.6	73	5.0	9.8	39.3	23.0	16.9	3
9203 Name of Similar Variety	137.1	2.0	73	5.4	10.2	38.6	23.1	16.7	3

## PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTi-A<sub>2</sub> in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-9.

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## 9244 PVP Application

## EXHIBIT D.

In Exhibit C we have identified 9244 as susceptible to bacterial blight, brown spot, pod and stem blight, rhizoctonia root rot, bud blight, yellow mosaic, cowpea mosaic, pod mottle and seed mottle. This does not mean we consider 9244 to be worse than other varieties of similar maturity in reaction to these challenges. Rather, we have chosen to be conservative and have identified 9244 as "susceptible".

Variety 9244 is a mid group II variety. If group II maturities are divided into tenths, the relative maturity of 9244 is 2.4.

Pioneer Hi-Bred Int'l, Inc.  
PVP Application 9244 Soybean  
May 2, 1995

**EXHIBIT E: STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP**

Variety '9244' was originated and developed by plant breeders (U.S. nationals) from whom, by agreement, Pioneer Hi-Bred has obtained exclusive rights to protect and market variety '9244'. No rights to such invention, discovery, or development are retained by the plant breeders or by any other party.